

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/030,868	KORCHEV ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Susan Hanley	1651	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/16/05.
2. ☒ The allowed claim(s) is/are 18-33,35-46,48,50 and 52-54.
3. ☒ The drawings filed on 11 April 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>20050323</u> .</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Doran Pace on March 22, 2005.

The application has been amended as follows:

Claims 47 and 49 have been cancelled.

Claims 18-22, 25-29, 32, 33, 35-41, 43-46, 48, 53 and 43 have been replaced by the following:

- 18. An apparatus for imaging an object comprising a container in which an object can be immersed in a first electrolyte solution, a probe capable of containing a second electrolyte solution, wherein said electrolyte solutions can be in fluid communication, wherein said probe can deliver an assay component to said object; a means for vibrating said probe at a given frequency substantially normal to the surface of the object; a means to detect ion current flowing between said probe and said container comprising a first electrode disposed in said probe and a second electrode disposed in said container in which said object is immersed; means for monitoring modulation of the ion current resulting from the vibration of said probe at the given frequency while close to the surface of the object; and a means to control the distance of the probe from the surface of the object in response to the modulation of the ion current.
- 19. The apparatus according to claim 18, wherein said probe is a micropipette.
- 20. The apparatus according to claim 18, wherein said assay component is light.
- 21. The apparatus according to claim 19, wherein said assay component is light.
- 22. The apparatus according to claim 20, wherein said probe comprises a fiber optic. --
- 25. The apparatus according to claim 20, wherein said probe contains a light-activatable dye at its tip.

Art Unit: 1651

26. The apparatus according to claim 20, wherein the outer surface of said probe is coated to prevent leakage of light.
27. The apparatus according to claim 20, wherein the outer surface of said probe is coated with a metal layer to prevent leakage of light.
28. The apparatus according to claim 18, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the surface of a live cell.
29. The apparatus according to claim 19, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the surface of a live cell. --
- 32. The apparatus according to claim 18, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the inside a live cell.
33. The apparatus according to claim 19, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the inside a live cell. --
- 35. A method for imaging an object in a container in a liquid environment, by scanning ion conductance microscopy, which comprises immersing said object in an electrolyte liquid, placing a probe in said container with said object, wherein said probe contains said electrolyte liquid, placing a first electrode in said probe and a second electrode in said container having said immersed object, vibrating said probe close to the object, at a given frequency, substantially normal to the surface of the object, wherein said vibration causes an ion current between said first electrode disposed within said probe and said second electrode in said container having said immersed object, detecting the ion current, monitoring modulation of the ion current resulting from said vibration of said probe while close to the surface of the object, controlling the distance of said probe from the surface of the object in response to the modulation of the ion current, wherein said probe includes a means for delivering an assay component to the object.
36. The method according to claim 35, wherein said probe is a micropipette.
37. The method according to claim 35, wherein said probe comprises a fiber optic.

Art Unit: 1651

38. The method according to claim 35, wherein said probe contains a light-activatable dye at its tip.
39. The apparatus according to claim 35, wherein the outer surface of said probe is coated with a metal layer to prevent leakage of light.
40. The method according to claim 35, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the surface of a live cell.
41. The method according to claim 36, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the surface of a live cell. --
- 43. The apparatus according to claim 35, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the inside of a live cell.
44. The apparatus according to claim 36, wherein said assay component comprises a substance that produces a detectable change in response to interacting with the inside of a live cell.
45. The method according to claim 35, wherein the assay component is light.
46. The method according to claim 45, which additionally comprises a laser light source. --
- 48. The method according to claim 44, wherein said substance generates fluorescence, bioluminescence or chemiluminescence. --
- 53. An apparatus for imaging an object, comprising a container in which an object can be immersed in a first electrolyte solution, a probe capable of containing a second electrolyte solution, wherein said electrolyte solutions can be in fluid communication, wherein said probe contains an assay component that can be delivered to the locus of said object; wherein said assay component is a substance that can interact chemically or physically with said object; a means for vibrating said probe at a given frequency substantially normal to the surface of the object; a means to detect ion current flowing between said probe and said container comprising a first electrode disposed in said probe and a second electrode disposed in said container in which said object is immersed; means for monitoring modulation of the ion current resulting from the vibration of said probe at

Art Unit: 1651

the given frequency while close to the surface of the object; and a means to control the distance of said probe from the surface of the object in response to the modulation of the ion current.

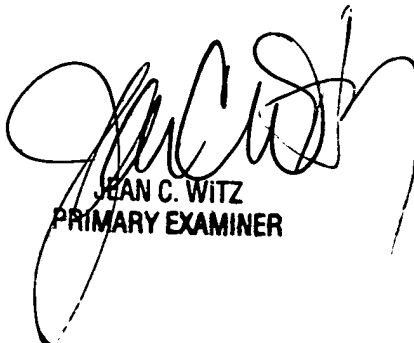
54. The apparatus according to claim 53, wherein said probe is a micropipette. --

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Hanley whose telephone number is 571-272-2508. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Hanley  
Patent Examiner  
AU 1651



JEAN C. WITZ  
PRIMARY EXAMINER